Rule for Factoring a Perfect-Square Trinomial

$$a^2+2ab+b^2=(a+b)(a+b)$$

$x^2+8x+16$	x^2+6x+9	$9x^2+24x+16$
$a^2+2ab+b^2$	$a^2+2ab+b^2$	$a^2+2ab+b^2$
$b^2=16$ & $a^2=(1x)^2$	$b^2=9$ & $a^2=(1x)^2$	$b^2=16$ & $a^2=(3x)^2$
$b=4$ & $a=1x$	$b=3$ & $a=1x$	$b=4$ & $a=3x$
$(x+4)(x+4)$	$(x+3)(x+3)$	$(3x+4)(3x+4)$

$$a^2-2ab+b^2=(a-b)(a-b)$$

$x^2-10x+25$	$x^2-18x+81$	$4x^2-20x+25$
$a^2+2ab+b^2$	$a^2+2ab+b^2$	$a^2+2ab+b^2$
$b^2=25$ & $a^2=(1x)^2$	$b^2=81$ & $a^2=(1x)^2$	$b^2=25$ & $a^2=(2x)^2$
$b=5$ & $a=1x$	$b=9$ & $a=1x$	$b=5$ & $a=2x$
$(x-5)(x-5)$	$(x-9)(x-9)$	$(2x-5)(2x-5)$

Rule for the Difference of Two Squares $a^2-b^2=(a+b)(a-b)$

$4x^2-25$	$25x^2-9$
a^2-b^2	a^2-b^2
$a^2=(2x)^2$ & $b^2=25$	$a^2=(5x)^2$ & $b^2=9$
$a=2x$ & $b=5$	$a=5x$ & $b=3$
$(2x+5)(2x-5)$	$(5x+3)(5x-3)$